



Leslie Heppler &lt;lheppler@utah.gov&gt;

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**Fwd: Concentrator Process Water Release 5-Day Letter**

1 message

OCT 30 2015

Div. of Oil, Gas &amp; Mining

**Brian Hamos** <bhamos@utah.gov>  
To: Leslie Heppler <lheppler@utah.gov>  
Cc: Daniel Hall <dhall@utah.gov>

Fri, Oct 30, 2015 at 2:02 PM

Leslie,

This is the spill report for the spill Kennecott had at the concentrator last week. Give me a call if you have any questions.

----- Forwarded message -----

From: **Wheeler, Scott (RTKC)** <Scott.Wheeler@riotinto.com>

Date: Fri, Oct 30, 2015 at 11:14 AM

Subject: Concentrator Process Water Release 5-Day Letter

To: "bhamos@utah.gov" &lt;bhamos@utah.gov&gt;

Cc: "dhall@utah.gov" &lt;dhall@utah.gov&gt;, "Schnoor, Steve (RTKC)" &lt;Steve.Schnoor@riotinto.com&gt;, "Nannini, Tom (RTKC)" &lt;Tom.Nannini@riotinto.com&gt;, "Vinton, Brian (RTKC)" &lt;Brian.Vinton@riotinto.com&gt;, "Evans, Ryan (RTKC)" &lt;Ryan.Evans@riotinto.com&gt;

Brian,

Attached is the Concentrator Process Water Release 5-Day Letter. I appreciate your flexibility with the submission date, it helped us refine some matters with the data. Please let me know if you have any questions.

Thanks,

Scott Wheeler, PG

Senior Advisor – Water Quality

**Rio Tinto Kennecott**

4700 Daybreak Parkway, South Jordan, Utah 84095

T (801) 569-7817 M (801) 201-6764 F (801) 569-6408

scott.wheeler@riotinto.com www.riotinto.com www.kennecott.com

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—  
Brian Hamos, P.G.

Ground Water Section

Utah Division of Water Quality

195 N 1950 W SLC, UT

801-536-4384

[bhamos@utah.gov](mailto:bhamos@utah.gov)

<http://www.waterquality.utah.gov/>



**Concentrator 5-Day Letter Process Water Release Final.pdf**

3823K



Copperton Concentrator  
Rio Tinto Kennecott  
4700 Daybreak Parkway  
South Jordan, Utah 84095  
T 801-204-2000  
F 801-204-2888

October 30, 2015

Mr. Dan Hall  
Division of Water Quality  
Utah Department of Environmental Quality  
P.O. Box 144870  
195 North 1950 West  
Salt Lake City, Utah 84114-4870

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Attention: Mr. Brian Hamos

Dear Mr. Hall:

**Subject: Process Water Release from Process Water Reservoirs; Concentrator  
Ground Water Permit # UGW350017.**

Rio Tinto Kennecott (RTKC) submits this 5-day letter in response to a process water release from the Concentrator Process Water Reservoir in the late afternoon of October 21, 2015. Verbal notification to the Division of Water Quality (DWQ) 24-hour hotline was made at 7:30 p.m. on October 21, 2015. RTKC followed up on the morning of October 22, 2015 with a phone call to Mr. Brian Hamos (DWQ).

At approximately 3:15 p.m. on October 21, 2015 a Control Room operator at the Concentrator noticed the data (PI) trends for the reservoir level indicators were not functioning properly. The level indicators were periodically losing power and not properly communicating the correct data to the Control Room. A field operator verified with the Control Room that the level sensors were malfunctioning, which confirmed the data loss. After verification with the Control Room, the field operator went to the reservoirs around 3:20 p.m. and observed high water levels and contacted the Control Room. The Control Room operator immediately reduced the water demand from seven pumps to four pumps at Pump Stations 3A/3B. Two electricians were dispatched to repair the water level sensors at 4:15 p.m. they also called the control room to report that the Reservoirs level was high but they did not go to the spillway to confirm that the reservoir was overflowing.

At approximately 4:45 p.m. a field operator checked the reservoir level and observed the water overflowing into Barneys Wash. He immediately contacted the Control Room by radio to inform them of the situation. At 4:52 p.m. the level indicators were back on line and indicated the process water reservoirs were 100% full. The Control Room immediately shutdown all of the process water pumps from Pump Stations 3A/3B, and reduced the water demand from the Byron Jackson pumps around 5:02 p.m. The water stopped flowing into Barneys Wash at approximately 5:20 p.m. which was visually confirmed.

Between approximately 3:15 p.m. to 5:20 p.m. on October 21, 2015, the Concentrator Process Water Reservoirs overflowed into an engineered concrete spillway. The process water flowed down the spillway and into Barneys Wash, south of the Process Water Reservoirs. A flume box built in the spillway, which can direct water into a 24-inch overflow pipeline, was inadvertently plugged by a fine mesh fabric. Therefore, the water volume in the reservoir was increased which resulted in the flume being bypassed and water entering Barneys Wash.



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The water collected in the drainage west of the haul road (Figure 1) where a culvert is approximately 4 feet above the bottom grade of the drainage. At one point the water overwhelmed the culvert; the measured water above the culvert reached two feet at one point. The water flowed down the drainage (east) passing under the conveyor belt and Concentrator access roads and continued to a point approximately 750 feet from the Copperton Railroad grade.

During the spill event, RTKC operators and environmental personnel acted immediately and built two earthen berms in the path of the oncoming water. The first berm was built approximately 750 feet upgradient of the Copperton Railroad grade and the second built at the upstream side of the culvert that passes beneath railroad grade. However, the water stopped before it made it to the first bermed area. The berms were removed and the area was regarded back to natural contouring.

Based on pumping data and water demand from the Concentrator, approximately 900,000 gallons of water was released from the reservoirs into Barneys Wash. The volume calculations were made by analyzing the volume of water entering the reservoirs from pump stations 3A/3B and the Byron Jackson pumps (influent). While subtracting the amount of water demand the Concentrator needed from the reservoirs (effluent). However, the volume of released water could change as a result of the taproot investigation.

After the process water release, Concentrator personnel dispatched a vacuum truck to begin removal of the ponded water. The total amount of ponded water removed was approximately 65,000 gallons. The majority of water infiltrated into the surface, which includes the ponded water and the water which flowed further downstream.

Visual observations of high process water reservoir levels from the Concentrator personnel estimated the duration of release to be approximately 80 minutes. The root cause investigation of the release will be conducted by RTKC personnel. After the final root cause analysis report is complete, RTKC will send updated results to the DWQ based on the final root cause and the change in the amount of water released, if required.

Water samples were collected at 8:45 p.m. and 9:00 p.m. on October 21, 2015 from the ponded water west of the haul road (Figure 1). The samples were submitted to the Kennecott Environmental Laboratory (KEL) on the morning of October 22. The samples were analyzed for pH, conductivity, TDS, arsenic, cadmium, chromium, copper, selenium and zinc; including major ions: chloride, sulfate, alkalinity, sodium, potassium, magnesium and calcium. Analytical results are located in Attachment 1.

At approximately 10:00 a.m. on October 22, Mr. Hamos (DWQ) arrived on-site and was escorted by RTKC environmental personnel. The site visit included observation of the Process Water Reservoirs and auxiliary components, the impounded water in the basin adjacent to the haul road, and the flow path of the water to its terminus location. The RTKC environmental personnel communicated to Mr. Hamos findings to date, and the immediate actions the Concentrator was initiating including pumping out the pooled water and removing the obstructions in the spillway.



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Should you have any questions regarding this matter, please contact myself or Scott Wheeler at 801-569-7817

Respectfully,

**ben.stacy@riotinto.com**  
Digitally signed by  
ben.stacy@riotinto.com  
DN: cn=ben.stacy@riotinto.com  
Date: 2015.10.30 10:39:16 -06'00'

Ben Stacy  
Acting General Manager  
Copperton Concentrator



RioTinto

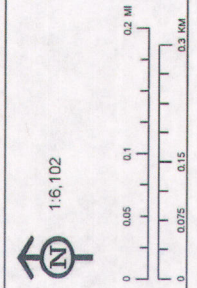
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Figure





# **FIGURE 1** **CONCENTRATOR SITE MAP**

Date: 10/27/2015 1:37:05 PM  
 GIS User: whsleher  
 Path: K:\Corporate\HSE\Environment\Concentrator\Process Water Reservoirs\October 2015 Release\Site Map Figure 1.mxd  
 Coordinate System: NAD 1983 UTM Zone 12N  
 © 2014 Kennecott Utah Copper

**Rio Tinto**  
**Kennecott Utah Copper**

The information on this map is based on the most current information available to Kennecott and should be used for planning purposes only. No warranty is made regarding the accuracy or utility of the data for general or scientific purposes, nor shall the act of distribution constitute any such warranty.

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**Attachment 1**  
Laboratory Analytical Results

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## Kennecott Environmental Laboratory

9180 W 2500 S  
Magna, UT 84044  
Phone (801) 569-7952

Certificate of Analysis --- October 30, 2015

Well Designation: **COPPERTON POND 1 T**  
Collection Date: 10/21/2015  
Submission Date: 10/22/2015

Page 1 of 2

| Analyte                 | Method       | KEL Sample ID Numbers:    |      | Total<br>Metals   | Dissolved<br>Metals |
|-------------------------|--------------|---------------------------|------|-------------------|---------------------|
|                         |              | Unit                      | CRDL | AX14721<br>Result | AX14722<br>Result   |
| Laboratory PH           | SM 4500-H B  |                           |      | 7.65              |                     |
| Alkalinity              | SM 2320B     | mg/L as CaCO <sub>3</sub> | 5    | 51                |                     |
| Laboratory Conductivity | 120.1        | micro mho/cm              | 1    | 8090              |                     |
| Total Dissolved Solids  | SM 2540 C    | mg/L                      | 20   | 6410              |                     |
| Calcium                 | 200.7        | mg/L                      | 1    | 859               |                     |
| Chloride                | 9251         | mg/L                      | 5    | 1850              |                     |
| Mercury                 | 245.2 (1974) | ug/L                      | 0.2  | Below CRDL        |                     |
| Potassium               | 200.7        | mg/L                      | 0.5  | 103               |                     |
| Magnesium               | 200.7        | mg/L                      | 1    | 104               |                     |
| Sodium                  | 200.7        | mg/L                      | 1    | 1090              |                     |
| Sulfate                 | 9036         | mg/L                      | 5    | 2440              |                     |
| Silver                  | 200.7        | ug/L                      | 10   | 11                | 10                  |
| Arsenic                 | 200.7        | ug/L                      | 20   | 77                | 44                  |
| Barium                  | 200.7        | ug/L                      | 10   | 227               | 204                 |
| Cadmium                 | 200.7        | ug/L                      | 10   | 18                | 12                  |
| Chromium                | 200.7        | ug/L                      | 10   | Below CRDL        | Below CRDL          |
| Copper                  | 200.7        | ug/L                      | 15   | 83                | Below CRDL          |
| Lead                    | 200.7        | ug/L                      | 50   | Below CRDL        | Below CRDL          |
| Selenium                | 200.7        | ug/L                      | 50   | Below CRDL        | Below CRDL          |

*Melissa R. Olsen*

Approved by: Melissa R. Olsen  
KEL Laboratory Director

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\* =Included for information purposes only, not performed by KEL.

NA = Not Analyzed

The Contract Required Detection Limits (CRDL) are minimum reporting limits required by the Ground Water Characterization and Monitoring Plan (GCMP)



**Kennecott Environmental Laboratory**

Certificate of Analysis --- October 30, 2015

9180 W 2500 S  
Magna, UT 84044  
Phone (801) 569-7952

Well Designation: **COPPERTON POND 2 T**  
Collection Date: 10/21/2015  
Submission Date: 10/22/2015

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| Analyte                | Method       | KEL Sample ID Numbers:    |      | Total Metals      | Dissolved Metals  |
|------------------------|--------------|---------------------------|------|-------------------|-------------------|
|                        |              | Unit                      | CRDL | AX14723<br>Result | AX14724<br>Result |
| Laboratory PH          | SM 4500-H B  |                           |      | 7.47              |                   |
| Alkalinity             | SM 2320B     | mg/L as CaCO <sub>3</sub> | 5    | 51                |                   |
| Labratory Conductivity | 120.1        | micro mho/cm              | 1    | 7980              |                   |
| Total Dissolved Solids | SM 2540 C    | mg/L                      | 20   | 6380              |                   |
| Calcium                | 200.7        | mg/L                      | 1    | 809               |                   |
| Chloride               | 9251         | mg/L                      | 5    | 1850              |                   |
| Mercury                | 245.2 (1974) | ug/L                      | 0.2  | Below CRDL        |                   |
| Potassium              | 200.7        | mg/L                      | 0.5  | 100               |                   |
| Magnesium              | 200.7        | mg/L                      | 1    | 103               |                   |
| Sodium                 | 200.7        | mg/L                      | 1    | 1040              |                   |
| Sulfate                | 9036         | mg/L                      | 5    | 2470              |                   |
| Silver                 | 200.7        | ug/L                      | 10   | 12                | 10                |
| Arsenic                | 200.7        | ug/L                      | 20   | 68                | 46                |
| Barium                 | 200.7        | ug/L                      | 10   | 239               | 200               |
| Cadmium                | 200.7        | ug/L                      | 10   | Below CRDL        | Below CRDL        |
| Chromium               | 200.7        | ug/L                      | 10   | Below CRDL        | Below CRDL        |
| Copper                 | 200.7        | ug/L                      | 15   | 360               | Below CRDL        |
| Lead                   | 200.7        | ug/L                      | 50   | Below CRDL        | Below CRDL        |
| Selenium               | 200.7        | ug/L                      | 50   | Below CRDL        | Below CRDL        |

*Melissa R. Olsen*

Approved by: Melissa R. Olsen  
KEL Laboratory Director

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